

LUTZ BIRNBAUMER

Born: February 6, 1939 in Vienna, Austria
1948 - 1967: Lived in Argentina
1967: Migrated to USA
Citizenship: United States
Status: Married to Mariel Birnbaumer (néé Despuy), Ph.D.; no children

Education

Up to 1958: Primary and secondary education in Buenos Aires, Argentina
1958-1962: Study of Pharmacy, University of Buenos Aires. *Degree* - M. Sc. in Pharmacy.
1958-1964: Study of Biochemistry, University of Buenos Aires. *Degree* - M. Sc. in Biochemistry.
1964-1967: Predoctoral Fellow, Department of Biological Chemistry, Faculty of Sciences, University of Buenos Aires, Argentina. *Degree* - Ph.D. in Biochemistry: Regulation of Glycogen Biosynthesis. Thesis advisors: Dr. Luis F. Leloir and Héctor N. Torres.
1967-1971: Postdoctoral Fellow, Section on Endocrinology, National Institute of Arthritis and Metabolic Diseases, Bethesda, Maryland, USA. *Major* - Molecular Endocrinology: Regulation of Adenyl Cyclase by Hormones. Preceptor: Dr. Martin Rodbell.

Professional Experience

1960-1961: Teaching Assistant, Department of Inorganic and Analytical Chemistry
1962-1964: Teaching Assistant, Pharmacology, Faculty of Pharmacy and Biochemistry
1964-1966: Teaching Assistant, Department of Biological Chemistry, Faculty of Sciences

1971-1974: at Northwestern University

1971-1974 Associate Professor, Department of Physiology, Northwestern University Medical School.
1974-1975 Visiting Scientist, Department of Molecular Medicine, Mayo Clinic, Rochester, Minnesota,

1975-1994: at Baylor College of Medicine, Houston, Texas

1975-1994 Professor, Department of Cell Biology,
10/81-6/82 Visiting Scientist, Institute National de la Sante, Hopital Henri Mondor, Creteil, France (sabbatical leave).
1986-1994 Professor, Department of Physiology and Molecular Biophysics,
1990-1994 Professor, Division of Neurosciences
1992-1994 Director, Diabetes Research Center, Department of Medicine
1993-1994 Professor, Department of Medicine (Endocrinology)

1994-2001: at UCLA, Los Angeles, California

1994-2001 Professor, Department of Anesthesiology, School of Medicine
1994-2001 Professor, Department of Biological Chemistry, School of Medicine.
1994-2001 Full Member, Molecular Biology Institute
1995-2001 Member, Brain Research Institute
1996-2000 Director, Embryonic Stem Cell and Transgenic Mouse Facility, UCLA Jonsson Comprehensive Cancer Center.
1997-2001 Professor and Chair, Department of Molecular, Cell and Developmental Biology, College of Letters and Science, UCLA

2001-present: at NIEHS (NIH, DHHS), Research Triangle Park, North Carolina.

2001-2007 Sr. Investigator (Full Professor equivalent)
2001-2006 Scientific Director, Division of Intramural Research, National Institute of Environmental Health Sciences (NIEHS), National Institutes of Health (NIH), Department of Health and Human Services (DHHS)
2001-2007 Head, Transmembrane Signalling Group, Laboratory of Signal Transduction, DIR, NIEHS.
2007- NIH Sr. Investigator (University Professor equivalent)
2007- Head, Transmembrane Signalling Group, Laboratory of Neurobiology, NIEHS

Languages

English, German and Spanish: fully. French: understanding and reading. Italian: reading only.

Scientific Standing

1982 -Ranked at position 542 among 1,000 most cited scientists during period of 1965-1978 (c.f. Current Contents, Oct., 1982).

2002 -Ranked among most cited authors by the ISI Web of Science. Total times cited from 1980 through 2002: 14,676 times.

2005 -Total times cited from 1970 through 2006: 30,961 (peer reviewed: 23,734; reviews/book chapters: 6,237). Average citations per peer reviewed publication: 89.2. Average citations per invited publication (notes, reviews, book chapters): 97.4 Number of peer reviewed articles quoted more than 100 times: 77. *h Factor*: 89 (89 papers quoted more than 89 times).

Honors and Awards

- 1962-1966: Predoctoral Fellowship, National Research Council, Argentina.
- 1967: Prize "Faculty of Pharmacy and Biochemistry" (1966 best thesis) University of Buenos Aires.
- 1967-1968: U. S. Public Health Service Visiting Fellowship.
- 1968-1969: National Institutes of Health Postdoctoral Fellowship.
- 1981-1982: Macy Foundation Faculty Scholar Award.
- 1985: Society for the Study of Reproduction Research Award.
- 1986: C. C. Bell Research Professorship of Cell Biology, Baylor College of Medicine.
- 1986: MERIT Award, National Institute of Diabetes, Digestive and Kidney Diseases.
- 1989: Honorary Professor, Faculty of Sciences, University of Buenos Aires, Argentina.
- 1992: Wellcome Visiting Professor in the Basic Medical Sciences.
- 1995: Doctor *Honoris Causa* (Honorary Doctorate), School of Medicine, Universidad Complutense, Alacá de Henares/Madrid, Spain.
- 1995: Member, U.S. National Academy of Sciences.
- 1997: The 1997 "H.W. Magoun Lecture" UCLA Brain Research Institute.
- 2002: The "Mavis P. Kelsey Lecture" Texas A&M Inst. of Biosciences and Technology, Houston, TX
- 2003: 2003 Memorial Lecture "Conferencia Orias", Society of Biology of Córdoba, Argentina.
- 2004: Foreign Associate Member, Argentine National Academy of Sciences.
- 2006: Foreign Associate Member, National Academy of Medicine, Argentina.

Memberships in Scientific Societies

- 1971: Endocrine Society (USA).
- 1972: American Society of Biological Chemists.
- 1976: Society for the Study of Reproduction (USA).
- 1977: American Association for the Advancement of Science.
- 1980: American Chemical Society.
- 1986-1988: Awards Committee, Society for the Study of Reproduction.
- 1989-1992: Governing Council of the Endocrine Society (USA).

Membership on Editorial Boards of National and International Scientific Journals

- 1971-1975: Endocrinology (Usa)
- 1975-1985: The Journal of Cyclic Nucleotide Research
- 1977-1983: Molecular and Cellular Endocrinology
- 1977-1981: Biology of Reproduction
- 1981-1986: Journal of Biological Chemistry
- 1988-1990: Journal of Biological Chemistry
- 1988-: Molecular and Cellular Biochemistry
- 1988-1993: Molecular Endocrinology
- 1988-: Cellular Signaling
- 1990-1993: Cellular Physiology and Biochemistry

1991- Biological Signals
1993- Receptors and Channels

Membership on Committees on Scientific Programs of Scientific Societies

1982-1983: Scientific Program Committee, The Endocrine Society (co-Chair)
1983-1984: Scientific Program Committee, The Endocrine Society (Chair)
1987-1988: Program Organizing Committee, International Congress of Endocrinology, Kyoto, Japan, 1988.
1999-2000: Program Organizing Committee, International Congress of Endocrinology, Sidney, Australia, 2000.

Public Service

a. National Institutes of Health Advisory Boards:

- i. Member of Board of Scientific Councilors, National Institute of Environmental Health Sciences (1989-1993).
- ii. Member on Project Site Visit review panels
 - 1983 Program Grant, Salk Institute
 - 1988 Program grant, Salk Institute
 - 1989 Program grant, Cornell University Medical School
 - 1992 Six Diabetes and Endocrinology Center Grants
- iii. Numerous ad-hoc grant and research contract reviews
- iv. Member of Laboratory Review Committee for NIEHS, North Carolina, February 1997.

b. American Heart Association

1977-1980: Member of the Central Review Committee of the American Heart Association (Texas Affiliate).

c. Pew Charitable Trusts (PCT)

Fall 1997: Member of three-man team to review PCT's Latin American Fellows Program (included site visits to Stanford, Salk Institute, Scripps Clinic and Research Foundation (CA) as well as in Mexico, Chile and Argentina).

d. International

1991: Member, Ad-Hoc Committee of the German Federal Research Council and the Science Senate of the City of Berlin for the creation of the Research Institute for Molecular Pharmacology.
2004: Member of three-man team to review three research institutes in Chile created in the year 2000 by the Chilean Millennium Science Initiative (MSI).

Organizer and/or Chairman of Scientific Meetings

1975: Organizer and Coordinator, Workshop on "Plasma Membranes, Hormone Action and Reproductive Biology," sponsored by the Center for Population Research, National Institute of Child Health and Human Development, and the Baylor Population Program, October 27-29, Houston, Texas, USA.
1984: Vice-Chairman, 1984 Gordon Research Conference on Cyclic Nucleotides, June 11-15, Tilton, New Hampshire, USA
1984-1985: Co-Chairman, Scientific Program Committee, The Endocrine Society.
1985-1986: Chairman, Scientific Program Committee, The Endocrine Society.
1985: Chairman, Gordon Research Conference on Cyclic Nucleotides and Second Messengers and Protein Phosphorylation.
1987-1988: Member, Program Organizing Committee, International Congress of Endocrinology, Kyoto, Japan, 1988.
1990-1991: Member, Organizing Committee of the 5th Workshop on Methodology in Receptor Research held in 1991 in Agno-Lugano, Switzerland.
1993-1994: Member, Organizing Committee of the 6th Workshop on Methodology in Receptor Research held in 1991 in Verbier, Switzerland.
1990: Co-organizer, UCLA Winter Symposium on "Signal Transduction by G Proteins" February 9-15, Tamarron, Colorado.
1994: Co-Organizer, 6th Swiss Workshop on Receptor Methodology, May 9-12, Verbier, Switzerland.
1995: Co-Organizer, 7th Swiss Workshop on Receptor Methodology, March 17-21, Meiringen-Hasliberg, Switzerland.

Chairman of Scientific Sessions at Scientific Meetings

1974:

- Session Chairman, 1974 Gordon Research Conference on Cyclic AMP, Session on "Receptor-Cyclase Relationships," June 10-14, Tilton, New Hampshire, USA.
- Session Chairman, 1974 Laurentian Hormone Conference, Session on "Hormone Receptors," August 25-30, Mount Tremblant, Quebec, Canada.

1977:

- Session Chairman, 1977 Meeting of the Federation of American Societies for Experimental Biology (FASEB), Session on "Cyclic Nucleotides," April 4-8, Chicago, Illinois, USA.

1978:

- Session Chairman, 1978 Laurentian Hormone Conference, Session on "Membrane Phosphorylations and Growth Regulation," August 27-30, Mount Tremblant, Quebec, Canada.

1979:

- Session Chairman, 1979 Meeting of the Society for the Study of Reproduction, Session on "Ovarian Function," August 21-24, Quebec City, Quebec, Canada.

1980:

- Session Chairman, 1980 Gordon Research Conference on Hormone Action, Session on "Hormones Acting at the Level of Plasma Membrane," July 20-25, Plymouth, New Hampshire, USA.

1980:

- Session Chairman, Meeting on Membrane Transport and Neuroceptors of the ICN-UCLA Symposia on Molecular and Cellular Biology, Workshop Session on "Adenylyl Cyclase Regulation," February 24-29, Keystone, Colorado, USA.

1981:

- Session Chairman, 1981 Laurentian Hormone Conference, Session on "Hormonal Regulation of Adenylate Cyclases," August 30-September 4, Mont Tremblant, Quebec, Canada.

1983:

- Session Organizer, 1983 Gordon Research Conference on Cyclic Nucleotides, Session on "Mechanism of Action of Forskolin," Meriden, New Hampshire, USA.

1984:

- Moderator, Session on "General Properties of Endogenous Regulation," Gap Conference on "Endogenous Regulation in Cystic Fibrosis," March 21-23, Sandpiper Bay, Port St. Lucie, Florida, USA.
- Session Chairman, 1984 Gordon Research Conference on Hormone Action, Session on "Adenylate Cyclase-Linked Responses," August 6-10, Meriden, New Hampshire.

1994:

- Chairman, Roundtable on "Methods in G Protein Research" 6th Swiss Workshop on Receptor Methodology, May 9-12, Verbier, Switzerland.

1996:

- Session Chair, Roche International Symposium on "T-type Calcium Channels", October 20-21, Montpellier, France.

2003:

- Session Chair, Leopoldina Symposium "Epithelial Transport of Ions in Health and Disease" Session on "IP3 Receptors", March 19-21, Halle, Germany.

On the teaching faculty of international specialized graduate courses

1974:- Lecturer and Member of Organizing Committee, NATO Summer Course on "Regulation of Function and Growth of Eukaryotic Cells by Intracellular Cyclic Nucleotides," September 23-October 3, Namur, Belgium.

1978:- Co-Organizer and Visiting Professor, 1st International Course on "Cyclic Nucleotides and Metabolic Regulation," November 6-30, University of Buenos Aires, Buenos Aires, Argentina (sponsored by UNESCO).

1993- Lecturer, Summer Course on "Understanding Signal Transduction: Signals, Sensors, Transducers and Targets" Karolinska Institute and the Summer University of Southern Stockholm, June 17-20, Stockholm, Sweden.

Visiting professorships (1984- present)

1984

- August 14, 1984 - Division of Cardiology, Department of Medicine, Duke University, Durham, North Carolina.

- November 7, 1984 - Institute of Genetic Engineering and Molecular Biology/Department of Biochemistry, Faculty of Sciences, University of Buenos Aires, Buenos Aires, Argentina.
- November 28, 1984 - Department of Physiology, University of Texas School of Medicine at Houston, Houston, Texas.

1985

- May 8, 1985 - Department of Biochemistry, University of Louisville School of Medicine, Louisville, Kentucky.
- May 24, 1985 - Department of Pharmacology, University of North Carolina School of Medicine, Chapel Hill, North Carolina.
- Oct. 22, 1985 - Department of Physiology, Southwestern Medical Foundation, University of Texas School of Medicine at Dallas, Dallas, Texas.
- October 31, 1985 - Department of Pharmacology, University of Alabama School of Medicine at Mobile, Mobile, Alabama.
- November 8, 1985 - Department of Animal Sciences, College of Veterinary Sciences, University of Illinois, Champaign/Urbana, Illinois.
- March 31, 1985 - Department of Biochemistry, School of Medicine, Michigan State University, East Lansing, Michigan.
- June 9, 1985 - Graduate School of the City of New York and School of Medicine, Mount Sinai Medical Center, New York, New York.

1987

- February 12, 1987 - Department of Biochemistry, School of Medicine, University of Alcalá de Henares, Alcalá de Henares/Madrid, Spain.
- May 4, 1987 - Department of Biology, College of Arts and Sciences, Northwestern University, Evanston, Illinois.
- October 29-30, 1987 - Distinguished Professor, M.D./Ph.D. Program, UCLA School of Medicine, Los Angeles, California.

1988

- February 4, 1988 - Division of Nephrology, Department of Medicine, Massachusetts General Hospital. Harvard University School of Medicine, Boston, Massachusetts.
- November 18, 1988 - Department of Physiology and Biophysics, University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania.

1989

- May 4, 1989 - Department of Cell Biology, University of Alabama School of Medicine, Birmingham, Alabama.
- September 12, 1989 - Department of Cell Biology, School of Medicine, Texas Tech, Lubbock, Texas.
- October 6, 1989 - Department of Biochemistry, University of Texas School of Medicine at San Antonio, San Antonio, Texas.
- October 17, 1989 - Department of Medical Biochemistry, School of Medicine, University of Oslo, Oslo, Norway.

1990

- January 19, 1990 - Department of Biochemistry and Human Genetics, University of Texas Medical Branch, Galveston, Texas
- April 27, 1990 - Department of Pharmacology, University of Texas Medical Branch, Galveston, Texas
- September 16, 1990 - Department of Pharmacology and Toxicological Sciences, School of Medicine, Technical University of Munich, Munich, Germany.
- November 20, 1990 - Department of Pharmacology, College of Veterinary Medicine, Cornell University, Ithaca, New York.
- December 3, 1990 - Institute of Biomedical Research, Council for Scientific Research and University of Madrid, Madrid, Spain.
- December 10, 1990 - Department of Pharmacology, University of Texas School of Medicine at Houston, Houston, Texas.

1991

- April 30, 1991 - Department of Physiology and Biophysics, Case Western Reserve University School of Medicine, Cleveland, Ohio.
- October 23, 1991 - Department of Physiology and Pharmacology, Duke University School of Medicine, Durham, North Carolina.
- December 6, 1991 - Vollum Institute for Advanced Biomedical Research. The Oregon Health Sciences University, Portland, Oregon.

1992

- October 13, 1992 - Cellular and Molecular Biology Graduate Program, Montana State University, Bozeman, Montana.
- October 28-30, 1992 - Wellcome Visiting Professor in the Basic Medical Sciences. Department of Cell and Molecular Pharmacology and Experimental Therapeutics, Medical University of South Carolina, Charleston, South Carolina.
- October 14, 1992 - Institute for Reproductive Medicine, Department of Obstetrics and Gynecology, School of Medicine, University of Kansas at Wichita, Wichita, Kansas.
- November 24, 1992 - Department of Biochemistry, School of Medicine, University of Alcalá de Henares, Alcalá de Henares/Madrid, Spain.

1993

- February 23, 1993 - Department of Cellular, Molecular and Structural Biology, Northwestern University Medical School, Chicago, Illinois.
- April 19, 1993 - Department of Pharmacology, Vanderbilt University School of Medicine, Nashville, Tennessee.
- April 28, 1993 - Department of Pharmacology, Mount Sinai School of Medicine, New York, New York.

1994

- November 9, 1994 - Unité INSERM de Recherche No. 99, Hôpital Henri Mondor, Creteil/Paris, France.

1995

- April 28, 1995 - Distinguished Professor, Division of Biology, University of Southern California, Los Angeles, California.
- May 15, 1995 - Department of Physiology and Biophysics, School of Medicine, Case Western Reserve University, Cleveland, Ohio.
- May 16, 1995 - Cleveland Clinic Research Foundation, Cleveland, Ohio.

1996

- September 20, 1996 - Division of Neurobiology, Department of Biochemistry and Molecular Biology, University of Berkeley, California.
- October 10, 1996 - ACCESS Affinity Group Seminar Series, University of California, Los Angeles.
- October 30, 1996 - Department of Physiology-Integrative Biology-&-Pharmacology, School of Medicine, University of Texas, Houston, Texas.
- November 4, 1996 - Department of Physiology, UC, Irvine, Physiology.

1997

- September 23, 1997 - Calcium Interest Group and The Hispanic Employees Organization, National Institutes of Health, Bethesda, Maryland.

1998

- February 16, 1998 - Department of Physiology, University of Texas Southwestern Foundation, Dallas, Texas.
- October 19, 1998 - Division of Biology, California Institute of Technology, Pasadena, California.

1999

- January 13, 1999 - Distinguished Professor, Department of Cell Biology, Baylor College of Medicine, Houston, Texas.
- March 26, 1999 - Distinguished Professor, Neuroscience Center of Excellence, Louisiana State University, New Orleans, Louisiana.

- April 22, 1999 - West Los Angeles Veterans Administration Hospital Research Foundation, Westwood, Los Angeles, California.
- April 23, 1999 - Long Beach Veterans Administration Hospital Research Foundation, Long Beach, California.
- April 28, 1999 - Department of Biochemistry. Universidad Alcalá de Henares, Alcalá (Madrid)
- September 15, 1999 - Department of Chemistry and Biochemistry, California State University Long Beach, Long Beach, California.

2000

- January 14, 2000 - Department of Neonatal Care & M.D./Ph.D. Program, School of Medicine, Loma Linda University, Loma Linda, California.
- April 18, 2000 - UCLA Joint Seminar in Neuroscience.
- May 2, 2000 - Department of Pharmacology, Mount Sinai School of Medicine, New York, New York.
- May 5, 2000 - Department of Cell Biology, New York University School of Medicine, New York.
- October 18, 2000 - Department of Physiology, University of Wisconsin Medical School, Madison, Wisconsin.

2001

- March 5, 2001 - National Institute of Environmental Health Sciences, NIH, Research Triangle Park, North Carolina.
- May 14-15, 2001 - Neurobiotechnology Center, Ohio State University, Columbus, Ohio.
- August 29, 2001 - Instituto de Ingeniería Genética y Biología Molecular (INGEBI), Buenos Aires, Argentina.
- August 30, 2001 - Institute of Biochemistry and Biophysics, School of Pharmacy and Biochemistry, University of Buenos Aires, Argentina.

2002

- March 13, 2002 - Department of Pharmacology and Cancer Biology, Duke University School of Medicine, Durham, North Carolina.
- September 2, 2002 - Department of Pharmacology, University of North Carolina School of Medicine, Chapel Hill, North Carolina.
- September 24, 2002 - Molecular and Cell Biology Graduate Program, Northwestern University Medical School, Chicago, Illinois.
- October 8, 2002 - Department of Pharmacology, Vanderbilt University School of Medicine, Nashville, Tennessee.
- December 9, 2002 - Department of Pharmacology, Medical University of South Carolina, Charleston, South Carolina.

2003

- January 7, 2003 - Triangle Synapse Club, Department of Physiology. University of North Carolina, Chapel Hill, North Carolina.
- March 17, 2003 - Institute of Pharmacology, Benjamin Franklin School of Medicine, Free University of Berlin, Berlin-Dahlem, Germany. G protein KO Phenotypes.
- April 16, 2003 - Division of Intramural Research, National Institute of Alcoholism and Alcohol Abuse, Rockville, Maryland. TRP channels.
- June 16, 2003 - Institute of Anatomy and Pathology, School of Medicine's Charité Hospital, Humboldt University, Berlin, Germany. G protein KO Phenotypes.
- September 30 - Department of Environmental and Molecular Toxicology, North Carolina State University, Raleigh, North Carolina.
- October 10-11 - Department of Anatomy, Ajou University School of Medicine, Seoul-Suwon, South Korea.
- November 28 - Department of Biochemistry, School of Chemistry, University of Córdoba, Córdoba, Argentina.
- December 5 - Instituto de Ingeniería Genética y Biología Molecular (INGEBI), Buenos Aires, Argentina.

2004

- April 16 - Department of Biochemistry and Molecular Biology, University of North Dakota School of Medicine, Great Forks, North Dakota.
- November 2 - Division of Neurology, Department of Medicine, Duke University, Durham, North Carolina [Molecular Structure and functions of TRP channels]
- November 3 - Grand Rounds, Division of Neurology, Department of Medicine, Duke University, Durham, North

Carolina. [Heterotrimeric Signal Transducing G proteins. Structure, molecular diversity, novel functions discovered through phenotypic analysis of G protein knock-out mice.]

- November 24 - Instituto de Ingeniería Genética y Biología Molecular (INGEBI), Buenos Aires, Argentina. [Imprinting at the GNAS locus - phenotypic correlates]
- November 25 - Department of Biochemistry, School of Chemistry, University of Córdoba, Córdoba, Argentina. [Imprinting at the GNAS locus - phenotypic correlates.]

2005

- November 28 - Institute of Biochemistry and Molecular Biology, Heinrich Heine University School of Medicine, Duesseldorf, Germany [TRP channels]
- December 2 - Center for Oncologic Research, Charles III Institute, Madrid, Spain Imprinting at GNAS]
- December 6 - Institute for Pharmacology and Toxicology, Free University of Berlin, (Imprinting at GNAS).

2006

- March 1 - Institute of Pharmacology, University of the Saarland School of Medicine, Homburg, Germany. [Imprinting at the GNAS locus - phenotypic correlates.]
- March 3 - Institute of Pharmacology, Technical University of Munich, Munich, Germany. [Imprinting at the GNAS locus - phenotypic correlates.]
- March 6 - Department of Physiology, University College London, London, United Kingdom. [Imprinting at the GNAS locus - phenotypic correlates.]
- December 14 - Instituto de Ingeniería Genética y Biología Molecular (INGEBI), Buenos Aires, Argentina [TRPCs-Orai].

2007

- March 13 - Department of Pharmacology, University of Washington School of Medicine, Seattle, Washington [TRPCs-Orai, CCE=ROCE].
- April 12 - Laboratory of Cell Biology, NHLBI, NIH, Bethesda Maryland [CCE=ROCE].
- April 24 - Department of Internal Medicine, Wake Forest University Medical Center, Winston-Salem, North Carolina [Gnas Imprinting - Phenotypic correlates].
- May 16 - Department of Pharmacology and Experimental Toxicology, University of Marburg School of Medicine, Marburg, Germany (Orai-TRPC CCE=ROCE)
- May 21 - Department of Pharmaceutical Sciences, University of Tuebingen, Germany. [TrPC-Orai, CCE=ROCE]
- June 8 - Instituto de Ingeniería Genética y Biología Molecular (INGEBI), Buenos Aires, Argentina [TRPCs-Orai-II]
- June 14 - Instituto "Luis F. Leloir", Buenos Aires, Argentina. [TRPC-Orai-IP3R].
- October 9 - Center for Neurosciences and Department of Psychiatry, University of Texas Southwestern Medical School, Dallas, Texas.
- November 6 - John A. Moran Eye Center and Department of Ophthalmology, University of Utah School of Medicine, Salt Lake City, Utah.

Invited presentations about laboratory research and views at national and international scientific meetings:

1968

- Discusant, 1968 Gordon Research Conference on Lipid Metabolism, Session on Hormonal Regulation of Lipolysis, June 10-14, Meriden, New Hampshire, USA.

1970

- 1970 Gordon Research Conference on Hormone Action, Session on Correlation of Hormone Action at Tissue, Cellular and Subcellular Levels, August 17-21, New London, New Hampshire, USA.

1972

- 1972 Gordon Research Conference on Cyclic AMP, Session on Hormone Receptor Interactions, June 12-16, Meriden, New Hampshire, USA.

1975

- 1975 Gordon Research Conference on Cyclic Nucleotides, Session on "Regulation of Adenylyl Cyclase Systems," June 9-13, Tilton, New Hampshire, USA.

1976

- 10th International Congress of Biochemistry, Symposium on "Molecular Mechanisms of Hormone Action," July 25-31, Hamburg, West Germany.
- 27th Annual Meeting of the American Institute of Biological Sciences (AIBS), American Society of Zoologists' Symposium on "Comparative Aspects of Receptors and Hormones," May 30-June 4, New Orleans, Louisiana.
- Satellite Symposium on Glucagon, Session on "Molecular Action of Glucagon," November 8-10, Srinagar, Kashmir, India.

1977

- Workshop Symposium on "Ontogeny of Receptors and Molecular Mechanisms of Reproductive Hormone Action," August 19-20, Austin, Texas, USA.

1978

- Discussant, Workshop Symposium on "Ovarian Follicle and Corpus Luteum Functions," June 11-13, Miami, Florida, USA.
- VIth International Symposium on Medicinal Chemistry, Session on "Receptor Differentiation," September 4-7, University of Sussex, Brighton, England.

1979

- International Symposium of Molecular Endocrinology "Bernardo A. Houssay," September 30-October 1, National Academy of Medicine (Argentina), Buenos Aires, Argentina.
- V PanAmerican Congress of Endocrinology and Metabolism, October 3-9, Bariloche, Argentina.
- 1979 International Titisee Conference on "Drug Action," October 18-20, Titisee, Federal Republic of Germany.

1980

- 1980 Faculty Seminar, The University of Texas Health Science Center at Dallas, February 20-21, Dallas, Texas, USA.
- "Meet-the-Professor" Luncheon on "Measurement of Membrane Receptors, Adenylyl Cyclases and Cyclic Nucleotides," organized by the Committee on Scientific Programs, the Endocrine Society, June 18-20, Washington, D. C., USA.
- 1980 Gordon Research Conference on Cyclic Nucleotides, Session on "Regulation of Adenylate Cyclase," June 8-13, Meriden, New Hampshire, USA.

1981

- International Symposium on Hypersensitivity to Drugs," April 21-26, Rosario, Argentina.
- 6th European Symposium on "Hormones and Cell Regulation," October 5-8, Le Bischenberg, Bischoffsheim, Alsace, France.

1982

- "Basel Workshop of Methodology in Receptor Research," April 7-8, Basel, Switzerland.
- Speaker and Coordinator of Poster Presentations, 4th Annual Ovarian Workshop, Session on "Mechanisms of ovarian Hormone Action (Steroids and Peptides)," July 17-19, University of Wisconsin, Madison, USA.
- 1982 Symposium of the International Society for Biochemical Endocrinology on "Regulation of Target Cell Responsiveness," September 19-23, Geilo, Norway.
- Member of Scientific Committee and Speaker, "International Symposium on Hormone Receptors in Growth and Reproduction," November 18-20, Bombay, India.

1983

- 1983 Gordon Research Conference on Cyclic Nucleotides, Session on "Regulatory Components of Adenylate Cyclase," June 12-17, Meriden, New Hampshire USA.
- 5th International Conference on Cyclic Nucleotides and Protein Phosphorylation, Round Table on "Regulation of Adenylate Cyclase by Divalent Cations," June 27-July 1, Milan, Italy.
- 1983 Gordon Research Conference on Hormone Action, Session on "Use of Cell Variants in Hormone Action Research," August 7-12, Meriden, New Hampshire, USA.

1984

- "2nd Basel Workshop on Methodology in Receptor Research," May 9-11, Rheinfelden, Switzerland.
- 9th International Congress of Pharmacology, Symposium on "Regulation of Adenylate Cyclase," July 29 - August 4, London, United Kingdom.
- 1984 Laurentian Hormone Conference, Session on "Hormonal Regulation and Transmembrane Signalling," August 26-31, Hot Springs, Virginia, USA.
- "Pertussis Toxin Conference," September 20-21, National Institutes of Health, Bethesda, Maryland, USA.

-Princess Liliane Cardiology Foundation Symposium on "The Role of Receptors in Biology and Medicine," October 29-30, Brussels, Belgium.

1985

-13th International Congress of Biochemistry, Symposium on "Hormonal Regulation of Adenylate Cyclase Activity," August 25-30, Amsterdam, The Netherlands.

-Symposium on "Regulatory Factors in Development and Reproduction," May 23-24, The University of Michigan, Ann Arbor, Michigan, USA. 1986

-Cold Spring Harbor Symposium on "G Proteins," May 1-3, Cold Spring Harbor, New York, USA.

-Gordon Research Conference on Hormone Action, Session on "Second Messenger Regulation," August 4-8, Meriden, New Hampshire, USA.

-Gordon Research Conference on Peptide Growth Factors, Session on "Mechanisms of Transmembrane Signalling," August 11-15, Concord, New Hampshire, USA.

-Conference on "Molecular Biology and The Kidney," September 14-18, Pinehurst, North Carolina, USA.

1987

-"XVII Linderstrong-Lang Conference on Receptor Effector Mechanisms and Gene Regulation," April 26-30, Geilo, Norway.

-Minisymposium on "G Proteins - Basic Science to Clinical Disease," 69th Annual Meeting of the Endocrine Society, June 10-12, Indianapolis, Indiana, USA.

-Gordon Research Conference on Second Messengers, Session on "Adenylate Cyclase," June 15-19, Meriden, New Hampshire, USA.

-Gordon Research Conference on Molecular Pharmacology, Session on "Regulation of Ion Channels," June 15-19, Plymouth, New Hampshire, USA.

-Second Cambridge Minisymposium on "Receptors and Channels," July 3-4, Cambridge, England.

-Symposium on "Ion Channels and Their Regulation," October 5-6, University of Saarland, Homburg-Saar, Federal Republic of Germany.

-Graduate School Ph.D. Centenary Symposia, "Simplicity and Elegance in Nervous Systems: A Symposium in Molecular and Cellular Neuroscience," October 17, University of Minnesota, Minneapolis, Minnesota, USA.

-Fogarty International Center Conference on "Biochemical Mechanisms in GTP Mediated Protein Interactions: A Comparative Approach," October 19-21, Bethesda, Maryland, USA.

-Discussion in Neurosciences of the Foundation for the Study of the Nervous System, follow up on "Transduction of Neuronal Signals: Regulation of Ion Channels," December 12, New York, New York, USA.

1988

-National Institutes of Diabetes and Digestive and Kidney Diseases and the National Diabetes Advisory Board Colloquium II: "Gene Regulation and Cellular Signaling in Diabetes," April 8-9, Bethesda, Maryland, USA.

-5th European Workshop on the Molecular and Cellular Endocrinology of the Testis on "G Protein Mediated Signal Transductions," April 13-16, Brighton, United Kingdom.

-Annual Laurentian Hormone Conference, August 28-September 2, Quebec, Canada.

-53rd Symposium on Quantitative Biology, The Molecular Biology of Signal Transduction, "Structural Aspects of G Proteins Regulating Ion Channels," May 25-June 1, Cold Spring Harbor Laboratory, Cold Spring Harbor, New York, USA.

-FASEB Summer Research Conference on Receptors, August 7-12, "Ion Channel Activation by G Proteins," Saxton River, Vermont, USA.

-Gordon Research Conference on Hormone Action, August 8-12, "Regulation of Ion Channels by G-proteins," Kimball Union, New Hampshire, USA.

-ASPET Satellite Symposium "The Molecular Biology of Receptors, Pumps, and Channels, Pharmacological Targets," August 22-24, Cincinnati, Ohio.

-Annual Laurentian Hormone Conference, August 28-September 2, Quebec, Canada.

-Society of General Physiologists 42nd Annual Symposium, "Secretion and its Control," September 7-10, Woods Hole, Massachusetts, USA.

-Keynote Speaker, 18th Annual Michigan Cardiovascular Research Forum, American Heart Association of Michigan, September 15, Ann Arbor, Michigan, USA.

-Iowa State University 4th Molecular, Cellular and Developmental Biology Symposium, "Signal Transduction and Information Processing," September 24-27, Ames, Iowa, USA.

- Faculty, American Society for Pharmacology and Experimental Therapeutics 1988, "Short Course on Second Messenger Systems," October 9, Montreal, Ottawa, Canada.
- International Society of Nephrology Frontiers in Nephrology Symposia "Signal Transduction," October 9-12, Chatham, Massachusetts, USA.
- XVIIIth Meeting of the Mexican Society of Biochemistry, Symposium on "Biochemistry and Molecular Biology of Transmembrane Signalling," November 6-November 12, Oaxaca, Mexico.

1989

- 4th Transatlantic Airway Conference, "Receptors and Second Messengers," January 12-13, Key Biscayne, Florida.
- 33rd Annual Meeting of the Biophysical Society, Minisymposium on "G Protein Regulation of Ionic Channels" February 12-16, Cincinnati, Ohio.
- 40th Colloquium of the Society for Biological Chemistry, "Molecular Mechanisms of Hormone Action," April 6-8, Mossbach, Federal Republic of Germany.
- International Titisee Conference on "Drug Action at the Molecular Level: Differences Between Agonists and Antagonists" April 13-15, Titisee, Federal Republic of Germany.
- Biological Council Symposium on "Transmembrane Signalling, Intracellular Messengers and Implications for Drug Development," The Royal Institution, April 17-April 18, London, United Kingdom.
- IXth George Washington University International Spring Symposium: "Biology of Cellular Transducing Signals." May 8-12, Washington, District of Columbia.
- Jacques Monod Conference on "Molecular Mechanisms of Signal Transduction," July 3-7, Roscoff, France.
- Federation of American Societies for Experimental Biology Conference on Calcium and Cell Function, July 9-14, Saxton River, Vermont.
- IVth World Conference on Clinical Pharmacology and Therapeutics, Satellite Symposium, "Clinical Significance of Receptor Regulation in Cardiovascular and Respiratory Diseases." July 28-30, Essen, Federal Republic of Germany.
- Society of General Physiologists "Symposium on G Proteins and Signal Transduction," September 6-10, Woods Hole, Massachusetts.
- 3rd Annual Harvard Digestive Diseases Center Symposium on: "Muscarinic Receptor Subtypes, Molecular Biology, Cellular Biology, Pharmacology and Physiological Implications," October 13, Harvard Medical School, Boston, Massachusetts.

1990

- 1990 ASBMB/AAI Joint Meeting, Symposium on "Effector Systems", June 3-7, New Orleans, Louisiana.
- Society for the Study of Reproduction 1990 Symposium on "Mechanisms of Cellular Signal Transduction," June 16-18, Knoxville, Tennessee.
- The Annual Meeting of The American Society for Bone and Mineral Research, August 28, Atlanta, Georgia.
- Aharon Kazir-Katchalsky Conference, "From Receptor to Cell Response - Physiology and Pharmacology," September 9-14, Sta. Maria Imbaro (Chieti), Italy.
- Annual Meeting of the German Pharmacological Society, "Symposium on Mechanisms of Signal Transduction," December 5-8, Hannover, Germany.

1991

- The Symposium Pharmaco-Clinique Roussel UCLAF, "Seven Transmembrane Domain Receptors and Signal Transduction Mechanisms", May 23-24, Paris.
- 1991 Winter Symposium on "Receptors and Ion Channels," September 10-12, 1991, Berlin, Germany.
- 2nd International Conference on "Eicosanoids and Other Bioactive Lipids in Cancer, Inflammation and Radiation Injury," September 18-21, Klinikum Steglitz, Berlin.
- 16th European Symposium on "Hormones and Cell Regulation," September 23-26, Mont Sainte Odile, Alsace, France.
- Seventh International Symposium on Cellular Endocrinology "Functions of G Proteins in Cellular Physiology," September 26-29, Lake Placid, New York.

1992

- International Symposium on Idiopathic Dilated Cardiomyopathy (IDC), January 29- February 1, Baden-Baden, Germany.
- 5th Swiss Workshop on Receptor Methodology, May 12-15, Lugano-Agno, Switzerland.
- 20th Karolinska Institute Nobel Conference "Calcium Signalling," May 24-26, Saltsjöbaden, Stockholm, Sweden.
- Keynote Speaker: "Role of G Proteins in Signal Transduction," Ceremony: "1992 SmithKline Beecham Foundation

- Awards", July 7, Göttingen, Germany.
- Plenary Lecture "From Receptors to Effectors: The G Protein Connection" (delivered in Spanish). XXV National Congress of the Spanish Society of Physiological Sciences, September 13-17, Córdoba, Spain.
 - Plenary Lecture "Molecular Diversity of G Proteins and Functional Correlates", VII Congress of the PanAmerican Association of Biochemical Societies (PAABS), September 28 - October 2, Ixtapa, Mexico.
- 1993
- 1993 Jacques Monod Conference on "Molecular and Cellular Biology of Guanine Nucleotide-Binding Regulatory Proteins." June 6-11, Aussois, France
 - Symposium on "Structure and Function in Biological Systems" held to honor Prof. Ernst Helmreich, University of Würzburg, September 20-23, Würzburg, Germany.
 - Aeres-Serono Symposium on "GTPase Controlled Molecular Machines" September 22-25, Instituto Mario Negri, Sta. Maria Imbaro (Chieti), Italy,
 - Symposium on "Structure Function of Ca²⁺ Channels", International Congress of Physiological Sciences, August 1-6, Glasgow, Scotland, United Kingdom.
 - Symposium on "Transmembrane Signal Transduction", 2nd Congress of the Iberoamerican Societies of Biophysics, October 3-7, Puebla, Mexico.
- 1994
- International Symposium "Membaires-94" on "Ion Channels, Pumps and Transporters," April 27-May 8, Buenos Aires, Argentina.
 - 6th Swiss Workshop on Receptor Methodology, May 9-12, Verbier, Switzerland.
 - Symposium on "The Regulation of G Protein Function," XIIth International Congress of Pharmacology, July 24-29, Montreal, Canada.
 - 10th International Meeting on Research and on Medical and Pharmaceutical Technologies "Euromedicine 94", Plenary Session on "Timing in Neuronal Transmission" November 10-13, Montpellier, France.
- 1995
- 26th Annual Meeting of the American Society for Neurochemistry; Colloquium on "G Protein Coupled Receptors and Effectors." March 5-9, Santa Monica, California.
 - Gordon Research Conference on "Calcium Signalling" June 18-23, New England College, Henniker, New Hampshire.
- 1997
- 1997 Gordon Research Conference on Second Messengers and Protein Phosphorylation, Kimball Union Academy, June 8-12.
 - 1997 Gordon Research Conference on Excitation-Contraction Coupling, Colby Jr. College, June 8-12.
- 1998
- 8th Swiss Workshop of Methodology in Receptor Research. May 3 -7 Morschach, Switzerland.
 - 1998 FASEB Summer Conference on Calcium and Cell Signalling, July 4-9, Snowmass Village/Aspen, Colorado.
 - Symposium on "Calcium Channels Regulated by Intracellular Calcium Fluxes", XIIIth International Congress of Pharmacology, 26-31 July, Munich, Germany.
- 1999
- International Symposium on Advances in Molecular Medicine, University of Cologne, March 13-14, Cologne, Germany.
 - Recent Progress in Hormone Research, August 6-11, Skamania Lodge, Stevenson, Washington.
 - 11th International Symposium on "Calcium Binding Proteins and Calcium Function in Health and Disease", October 19-23, Kisarazu, Chiba, Japan.
- 2000
- FASEB Summer Conference on "Calcium and Cell Function", July 9-14, Copper Mountain, Colorado.
 - FASEB Summer Conference on "Smooth Muscle", July 23-28, Copper Mountain, Colorado.
- 2001
- Symposium on "Capacitative Calcium Entry", Annual Meeting of the Federation of American Societies of Experimental Biology (FASEB), March 31-April 4, Orlando Florida.
 - Evening Lecture: "Regulation of Ca²⁺ Entry Through TRP Channels: Stimulation by IP3R and Inhibition by Ca/CaM" in Symposium on "Temporal and Spacial Control of Cellular Signaling" May 24-26, University of Saarland, Homburg-Saar, Germany.

-Plenary Award Lecture of the International Society of Neurochemistry/American Neurochemistry Society, August 27, Buenos Aires, Argentina.

-Symposium on "G Protein Coupled Receptors." Lecture on "G Proteins: Structure-Function Overview and Progress Report on Phenotypes Emerging from Mice Deficient in PTX-sensitive Non-sensory G Protein Alpha Subunits." November 8, Santa Barbara, California.

2002

-Frontiers of Science Symposium in Honor of Franz Hofmann's 60th and Walter Trautwein's 70th Birthdays. Lecture on "Phenotypes of Mice Lacking Non-Sensory PTX-sensitive G Proteins" May 31-June 1, Munich, Germany.

2003

-Leopoldina Symposium "Epithelial Transport of Ions in Health and Disease" Lecture on "TRP Channels: Molecular Diversity, Role in Capacitative Calcium Entry and Activation by IP3 Receptors", March 19-21, German Academy of Natural Scientists "Leopoldina", Halle, Germany.

-VIIIth International Dahlem Symposium on "Cellular Signal Recognition and Transduction" held in honor of Professor Guenter Schultz, lecture on "Emerging Phenotypes in G Protein alpha-Subunit Deficient Mice" June 18-June 21, Berlin-Dahlem, Germany.

-Plenary Lecture "Cell Signaling and the TRP Family of Cation Channels" 15th Annual Meeting of the Korean Society for Molecular and Cellular Biology, October 9-10, Seoul, South Korea.

-Society of Biology of Córdoba, Argentina, 2003 Memorial Lecture "Conferencia Orías" on "Structure and Biological Roles of the TRP Family of Cation Channels," at the Instituto de Investigaciones Médicas "Mercedes y Martín Ferreyra", Córdoba, Argentina.

2005

-5th IPSEN Foundation Colloquium on "Insights into Receptor Function and New Drug Development Targets" December 5, 2005, Paris, France. [TRPCs as Targets]

2006

-The 2006 Minerva Gentner Symposium on "TRP Channels and Ca²⁺ Signaling." Lecture on "TRPC channels and Capacitative Ca²⁺ entry channels: How close are we?", February 24-28, Eilat, Israel.

2007

-4th SFB 530 Colloquium "Spatio-Temporal Interactions of Cellular Signalling Molecules" Lecture on "TRPCs, Orai, STIMs and IP3Rs: Their Roles in Receptor and Store-operated Calcium Entries." Homburg-Saar, Germany, May 18-19, 2007.

-Incorporation Lecture, Academia Nacional de Medicina, June 12, Buenos Aires, Argentina (GNAS Imprinting).

-Keystone Symposium on Molecular and Cellular Biology "The Transient Receptor Potential Ion Channel Superfamily." Session on Activation Mechanisms. September 18-23, Beaver Run Resort, Breckenridge, Colorado.